

AMENDMENTS TO THE CLAIMS

This listing of the claims will replace all prior versions and listings of the claims in this application.

LISTING OF THE CLAIMS:

Claims 1-7. (Canceled)

8. (New) A biological sensor which incorporates

a) a first layered SAW device consisting of a piezoelectric crystal with interdigital electrodes on its surface, and second piezoelectric layer, of a different material to said piezoelectric crystal, over said interdigital electrodes

b) a second layered SAW device consisting of a piezoelectric crystal with interdigital electrodes on its surface, a second piezoelectric layer, of a different material to said piezoelectric crystal over said interdigital electrodes and an analyte sensitive surface on said second piezoelectric layer

c) both saw devices are fabricated on the same substrate and have an appropriate cavity length and aperture size

d) the resonator circuits of each saw sensor incorporate amplifiers which are dependent .

9. (New) A biological sensor as claimed in claim 8 in which an acoustically sensitive transitional layer lies between the piezoelectric crystal and the second piezoelectric layer.

10. (New) A biological sensor as claimed in claim 8 or 9 in which the piezoelectric crystal is Lithium, Niobate or Lithium Tantalate and the second piezoelectric layer is zinc oxide.

11. (New) A biological sensor as claimed in claim 10 in which the analyte sensitive surface is gold.

12. (New) A biological sensor as claimed in claim 9 or 10 in which the cavity length of the two SAW devices is not less than 90% of the center to center distance of the two devices.

13. (New) A biological sensor as claimed in claim 2 or 3 in which the aperture size is approximately 200 wavelengths.

14. (New) A biological sensor as claimed in claim 8 in which the SAW devices include grooved gratings.